

REMARKS

Summary of Changes Made

By this Amendment claims 1, 8 and 15 have been amended and claims 2-7 and 16-20 have been canceled. No new claims or subject matter have been added to the application. Accordingly, claims 1 and 8-15 are pending in the application.

Claim Rejections - 35 U.S.C. §102

In the prior Office Action, the Examiner withdrew the prior rejection of claims 1-20 under 35 U.S.C. §102(b) as being anticipated by Manning et al., U.S. Pat. 5,770,559, as set forth in the Office Action mailed on November 24, 2006 (Paper No./Mail Date 11212006). However, the Examiner issued a new prior art rejection of claims 1-20 under 35 U.S.C. §102(b) on grounds that such claims were anticipated by Sievers et al., U.S. Pat. 6,095,134. For the reasons set forth below, applicants respectfully request reconsideration of the rejection of claims 1 and 7-15 in view of the amendments made to claims 1 and 15 herein.

Sievers et al. discloses a method for forming a gas-borne dispersion of fine particles of a desired substance. The process according to Sievers et al. involves: (a) substantially dissolving or suspending the desired substance in a first nongaseous fluid to form a first solution or suspension; (b) mixing the first solution or suspension with a second nongaseous fluid to form a composition comprising the substance and an immiscible mixture of the first and second nongaseous fluids; and (c) rapidly reducing the pressure on the composition whereby at least one of the nongaseous fluids forms a gas, and whereby a gas-borne dispersion of fine particles of the substance is formed (see col. 4, line 61 to col. 5, line 7).

Applicants have amended claims 1 and 15 to specify: (1) that the supercritical fluid or compressed gas has a surfactant dissolved therein; (2) that a solution comprising one or more solutes dissolved in one or more solvents contacts the supercritical fluid or compressed gas having the surfactant dissolved therein in a dispersion assembly whereby a stabilized solution-in-supercritical fluid or compressed gas emulsion having a continuous phase comprising the supercritical fluid or

compressed gas and a discontinuous phase comprising the solution is formed; (3) that the stabilized solution-in-supercritical fluid or compressed gas emulsion is sprayed through an orifice across a pressure drop in the form of spray droplets into an expansion vessel that is maintained at a pressure and a temperature sufficient to cause at least a portion of the supercritical fluid or compressed gas to decompress into a gas phase and to cause the discontinuous phase of the solution-in-supercritical fluid or compressed gas emulsion in the spray droplets to freeze and thus form frozen particles; and (4) that the frozen particles are freeze dried to obtain particles comprising the one or more solutes that are substantially devoid of the one or more solvents and the supercritical fluid or compressed gas. These process steps are described on page 7, line 24 to page 9, line 18; and page 10, lines 15-28, of the specification (see paragraphs [0031], [0034] and [0038]).

Sievers et al. does not teach the formation of a stabilized solution-in-supercritical carbon dioxide or compressed carbon dioxide gas emulsion. Furthermore, Sievers et al. does not teach that the gas-borne dispersion of particles formed according to the method should be sprayed into an expansion vessel that is maintained at a pressure and a temperature sufficient to cause at least a portion of the supercritical fluid or compressed gas to decompress into a gas phase and to cause the discontinuous phase of the solution-in-supercritical fluid or compressed gas emulsion in the spray droplets to freeze and thus form frozen particles, as claimed in claims 1 and 15. And, Sievers et al. does not teach that the frozen particles should be freeze dried to obtain particles comprising the one or more solutes that are substantially devoid of the one or more solvents and the supercritical fluid or compressed gas, as claimed in claims 1 and 15. On the contrary, Sievers et al. teaches away from applicants' invention as claimed in that Sievers et al. teaches that the gas-borne dispersion or particles (i.e., the aerosol) can be mixed with hot air or drying gases to dry the aerosol (see col. 10, lines 9-10). Clearly, Sievers et al. does not anticipate claims 1 and 15, as amended. Claims 7-14 depend from claim 1, either directly or through an intervening claim, and thus are patentable over Sievers et al. for the same reasons.

Claim Rejections - 35 USC §103

Also in the prior Office Action, the Examiner rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over Manning et al. with reference to Chattopadhyay et al., U.S. 6,998,051, in view of Sievers et al. The process disclosed in Manning et al. was described in applicants' prior Amendment "A" and is further described by the Examiner in the prior Office Action. As noted by the Examiner, the process according to Manning et al. differs from applicants' claimed subject matter in that it teaches injecting a solution into a chamber filled with antisolvent rather than spraying an emulsion across a pressure drop. The Examiner contends that one of skill in the art would modify the process according to Manning et al. to employ a spray technique as taught in Sievers et al. to arrive at applicants' invention as claimed. Applicants disagree with the Examiner's reasoning. Applicants respectfully submit that if Manning et al. was modified as suggested, it would cease to operate as intended.

Notwithstanding the foregoing, applicants note that claims 1 and 15 have been amended by this Amendment to specify: (1) that the supercritical fluid or compressed gas has a surfactant dissolved therein; (2) that a solution comprising one or more solutes dissolved in one or more solvents contacts the supercritical fluid or compressed gas having the surfactant dissolved therein in a dispersion assembly whereby a stabilized solution-in-supercritical fluid or compressed gas emulsion having a continuous phase comprising the supercritical fluid or compressed gas and a discontinuous phase comprising the solution is formed; (3) that the stabilized solution-in-supercritical fluid or compressed gas emulsion is sprayed through an orifice across a pressure drop in the form of spray droplets into an expansion vessel that is maintained at a pressure and a temperature sufficient to cause at least a portion of the supercritical fluid or compressed gas to decompress into a gas phase and to cause the discontinuous phase of the solution-in-supercritical fluid or compressed gas emulsion in the spray droplets to freeze and thus form frozen particles; and (4) that the frozen particles are freeze dried to obtain particles comprising the one or more solutes that are substantially devoid of the one or more solvents and the supercritical fluid or compressed gas. These process steps are not disclosed, taught or suggested by Sievers et al., Manning et al. or Chattopadhyay et al. Thus, to the extent that such

references could be combined, the resulting combination would not read on applicants' invention as claimed.

Conclusion

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge the same to Deposit Account No. 18-0160, Order No. FER-14858.001.001.

Respectfully submitted,

RANKIN, HILL, PORTER & CLARK LLP

By: /Randolph E. Digges, III/
Randolph E. Digges, III
Reg. No. 40590

700 Huntington Building
925 Euclid Avenue
Cleveland, Ohio 44115-1405
TEL: (216) 566-9700
FAX: (216) 566-9711
docketing@rankinhill.com